

Increased concerns about foodborne illness from fresh produce and the attendant economic loss from foodborne illness have motivated many growers to voluntarily adopt good agricultural practices (GAPs). GAPs help reduce microbial contamination on their farms and improve food safety systems. However, GAPs won't increase consumer demand for fresh produce unless growers let buyers know that they have taken steps to improve food safety on their farms. Consumers usually have no way to know whether or not fresh produce is grown with GAP practices.

Third-party GAP certification offers a way for growers to let buyers know that they follow appropriate food safety practices on their farms. Third-party GAP certification is voluntary—it is not yet mandated by law. Growers must measure the economic cost against the benefits before deciding whether to pursue certification.

Economic Benefits

GAP adoption and certification offers two primary benefits: (1) economic risk reduction, and (2) improved market access opportunities.

Economic Risk Reduction

Although GAP and third-party certification do not guarantee food safety, they do reduce the risk that a foodborne disease outbreak will originate on the farm. The risk of large economic losses—such as a catastrophic drop in sales (especially if contaminated produce is traced to the farm operation), damage to the farm's reputation, and potential lawsuits—is also reduced with GAP adoption and certification. However, the benefit from risk reduction accrues to the grower only in the event of an outbreak. To more accurately estimate the economic benefit of GAP adoption certification, a grower needs to calculate the farm's potential economic losses in case of an outbreak, both with and without GAP certification. Accurately estimating the probability of an outbreak is practically impossible, so the benefit of GAP certification often depends on the grower's own perception of the outbreak

Another important, but subtle, benefit of GAP adoption and certification is what economists call the "positive externality" effect to the entire fresh-produce industry. Each grower who becomes certified reduces his or her farm's risk of spreading foodborne illness and, therefore, lowers the risk of an outbreak that affects the entire community of growers. In contrast, if a grower does not adopt GAPs and doesn't become certified, when an outbreak is traced back to his or her farm, both the non-compliant producer and

the industry as a whole suffer, which is known as the "negative externality" effect.

Improved Market Access Opportunities GAP certification opens markets for producers

to expand sales to major supermarket chains,

school systems, restaurants, and other market outlets (Calvin, 2003). Many retailers and foodservice buyers now require third-party GAP certification as a condition of purchase. In 1999, for example, Safeway, the third-largest U.S. food retailer, expanded its food safety program, requiring all suppliers of certain food commodities to verify that they follow government food safety standards and specifications in production and packing. Other large retailers have followed suit. Research covering a select group of U.S. fruit and vegetable shippers indicated that in 1999, almost half of those studied provided third-party audits for GAPs for at least one of their buyers. While shippers were not always happy about complying with this request, most indicated that they would implement verification programs in response to changing buyer preferences (Calvin et al., 2001). In this study, shippers tried to distance themselves from growers with no third-party GAP certification. These shippers recognized that they can reduce risk by requiring growers to provide third-party audits for GAP. Only growers with this type of third party certifi-

Although growers could conceivably conduct their own food safety and GAP audits, third-party audits by reputable companies, individuals, or

cation can take advantage of the market opportu-

nities these shippers offer.

